

Notice of Allowability

Application No.

10/001,986

Examiner

Ted M. Wang

Applicant(s)

EILTS ET AL.

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 03/30/2007 amendment.
2. ☒ The allowed claim(s) is/are 1, 2, 4, 7-13, 15-23, 25-31, 34, 35, 37 and 38.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 06/03/2007.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Response to Arguments

1. Applicants' amendments and arguments, filed on 03/30/2007, with respect to Claims 34, 35, 37 and 38 have been fully considered and are persuasive. The 35U.S.C.112 second paragraph rejection has been withdrawn.

Examiner Amendments

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

3. Authorization for this examiner's amendment was given in a telephone interview with Applicant's representative Steven Shaw on June 03, 2007.

4. The application has been amended as follows:

In the claims:

- ☐ Cancel Claims 40 and 42.

Allowable Subject Matter

5. Claims 1, 2, 4, 7-13, 15-23, 25-31, 34, 35, 37 and 38 are allowed.

6. The following is an examiner's statement of reasons for allowance.

- ☐ The prior art fails to teach an apparatus of Claims 1, 13, 23, 25, 34 and 38 that specifically comprises the following:

-- The instant application is deemed to be directed to a non-obvious improvement over the admitted prior art of the instant application and the invention patented in Pat. No. US 6,563,885, US 2003/0086508, US 2002/0111142. The improvement comprises -

With regard claims 1, 13, 25, 34 and 38, "the channel estimator component further comprising a frequency shifter that shifts a spectrum of the average impulse response upon receipt of a data signal to provide N/K time samples to an N/K point Fast Fourier Transform component where N is the number of tones in a data signal and K is the number of partial channel estimates forming a full channel estimate, the N/K point Fast Fourier Transform component providing a partial channel estimate corresponding to the received data signal;" as recited in combination with other limitation as claimed in claims 1, 13, 25, 34 and 38, respectively, and

With regard claim 23, "a frequency shifting component that shifts the spectrum of the channel impulse response based on a burst count value; a Fast Fourier Transform portion that receives the frequency shifted channel impulse response and performs a Fast Fourier Transform on the frequency shifted channel impulse response to provide a partial channel estimate; and a combiner that combines the partial channel estimate with at least one other partial channel estimate to provide an aggregated channel estimate,

wherein the data signal being transmitted in a multicarrier modulation format." as recited in combination with other limitation as claimed in claim 23.

US 6,563,885 and US 2003/0086508 are assigned to the same assignee, TI, as that of instant application, they teach channel estimator with IFFT, averager, FFT and front end portion of a receiver except for specifically teaching the allowable subject matter as recited above.

US 2002/0111142 teaches a channel estimator with FFT but fails to teach the recited allowable subject matter.

US 6,563,885 and US 2003/0086508 and US 2002/0111142, individually or in combination, fail to teach the recited allowable subject matter.

7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M. Wang whose telephone number is

(571) 272-3053. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

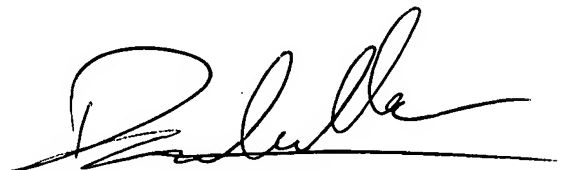
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

Ted M Wang

Examiner

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Ted M. Wang 



DACHA
PRIMARY EXAMINER